

REMARKS

Claims 15-20 are pending in the present application.

Claim Rejections-35 U.S.C. 112

Claims 15-20 have been rejected under 35 U.S.C. 112, first paragraph, as allegedly failing to comply with the written description requirement. The Examiner has alleged that the specification does not reasonably convey that Applicant had possession of the invention. The Examiner has requested identification of support in the specification for "from first and second directions to the opposite first and second surfaces". Applicant respectfully submits that this rejection is improper for at least the following reasons.

The organic exhaust gas treatment system in Fig. 2 is described on page 14, lines 24-29 of the application as including up-flow washing nozzles 234 which are arranged close to the downside of biological filter medium 221 and arranged to turn upward. On the other hand, pipeline 238 is connected to the side surface of organic gas absorption tower 221 above biological filter medium 221, so that the treating liquid is supplied to biological filter medium 221 from the upside, as described on page 14, line 30 through to page 15, line 3 of the specification. Fig. 2 includes arrow G pointing downward indicative of gravity.

As further described on page 15, lines 15-21 of the application, up-flow washing nozzle 234 makes it possible to inject the treating liquid upward from the nozzle

portions thereof from the bottom of biological filter medium 221. As described on page 15, line 29 through to page 16, line 3, the cleaning liquid is also supplied from pipeline 238 and passes through biological filter medium 221 from upside to downside.

Applicant respectfully submits that one of ordinary skill would very readily understand that the specification provides support for supplying treating liquid (260) from opposite first (i.e., from the top side of tower 220 near exhaust vent 222) and second (i.e., from the bottom side of tower 220 near pump 242) directions to opposite first (top) and second (bottom) surfaces of a biological filter medium (221) shown in Fig. 2. The Examiner's assertion that the specification fails to provide support for the above noted features thus appears unclear and without reason.

In the Response to Arguments section beginning on page 9 of the Final Office Action dated June 12, 2008, the Examiner has argued that the generic "opposite first and second directions" as in claim 1 would include other "opposite first and second directions" in addition to up and down directions. However, this point is immaterial because Fig. 2 and the above noted corresponding portions of the application clearly support supplying cleaning liquid from opposite first and second directions to opposite first and second surfaces of the biological filter medium. Also, it is inconsequential whether flow of cleaning liquid from up-flow washing nozzle 234 in Fig. 2 of the application could reach the top surface of biological filter medium 221 as suggested by the Examiner, because these features are not specifically claimed. As a note, Applicant agrees with the Examiner that sprinkling nozzles 235 as shown in Fig. 2 diffuse air. As

emphasized previously however, up-flow washing nozzles 234 and pipeline 238 supply treating liquid within tower 220.

Accordingly, Applicant respectfully submits that claims 15-20 are described in such a way as to reasonably convey to one skilled in the art that the inventor had possession of the claimed invention. Applicant therefore respectfully submits that claims 15-20 are in compliance with 35 U.S.C. 112, first paragraph, and thus respectfully urges the Examiner to withdraw this rejection for at least these reasons.

Claims 15-20 have been rejected under 35 U.S.C. 112, second paragraph, as allegedly being indefinite. The Examiner has asserted that "from first and second directions to the opposite first and second surfaces" in claim 15 is unclear because it is unclear what the first and second directions are and how the treating liquid can be supplied.

Applicant respectfully submits that the above noted portions of the specification clearly describe supplying treating liquid from first and second directions to opposite first and second surfaces of biological filter medium 221 shown in Fig. 2 of the present application, and that the features of claim 15 are clearly consistent and understandable in view of the description. Applicant thus respectfully submits that claims 15-20 are in compliance with 35 U.S.C. 112, second paragraph, and therefore urges the Examiner to withdraw this rejection for at least these reasons.

Claim Rejections-35 U.S.C. 103

Claims 15-20 have been rejected under 35 U.S.C. 103(a) as being unpatentable over the Turschmid et al. reference (U.S. Patent No. 6,013,512) in view of the Eguchi et al. reference (U.S. Patent No. 5,518,620) and the Cruze reference (U.S. Patent No. 5,378,280). This rejection is respectfully traversed for the following reasons.

The method for eliminating a harmful substance from an organic exhaust gas of claim 15 includes in combination among other features "supplying the treating liquid containing the harmful substance to the biological filter medium from opposite first and second directions to the opposite first and second surfaces, so that the harmful substance is biochemically degraded by the bacteria supported by the biological filter medium". Applicant respectfully submits that claim 15 would not have been obvious in view of the prior art as relied upon by the Examiner for at least the following reasons.

The Examiner has acknowledged that the primarily relied upon Turschmid et al. reference does not disclose (1) the use of a filter medium to support the bacteria, and (2) the step of contacting the treated exhaust gas with an active carbon to remove any remaining harmful substance in the treated exhaust gas. In an effort to overcome the deficiency with respect to a filter medium to support bacteria, the Examiner has relied upon the Eguchi et al. reference which includes formed material 54 of roll type as shown in Figs. 2(A) and 2(B) within cylindrical treatment vessel 8 shown in Fig. 1. The Examiner has asserted that it would have been obvious to provide a support or carrier for microorganisms in the process of the Turschmid et al. reference.

However, as described beginning in column 5, line 37 of the Eguchi et al. reference with respect to Fig. 1, water 4 to be treated is fed by water pump 6 from untreated water vessel 2 to bottom 10 of cylindrical treatment vessel 8. As further described in column 6, lines 21-25 of the Eguchi et al. reference, the treated water having lower organic matter concentration is discharged outside treatment vessel 8 through a second water pipe 18 connected to the top 14 of treatment vessel 8.

Accordingly, as may be readily clear in view of Fig. 1 of the Eguchi et al. reference, the treating liquid is supplied only to a bottom surface of the filter medium enclosed within treatment vessel 8. The Eguchi et al. reference does not disclose or even remotely suggest supplying treating liquid to a biological filter medium from opposite first and second directions to opposite first and second surfaces of the biological filter medium. The Cruze reference as further secondarily relied upon does not overcome this deficiency. The prior art as relied upon does not disclose all the features of claim 15. Applicant therefore respectfully submits that the method for eliminating a harmful substance from an organic exhaust gas of claim 15 would not have been obvious in view of the prior art as relied upon by the Examiner taken singularly or together, and that this rejection of claims 15-20 is improper for at least these reasons.

In the paragraph bridging pages 10-11 in the Response to Argument section of the Final Office Action, the Examiner has asserted that in Fig. 2 of the present application, there would only be one "net" downward flow direction of treating liquid.

Applicant however respectfully submits that this point regarding net flow as raised by the Examiner is immaterial, because claim 15 does not feature or specify net flow direction. That is, claim 15 specifically features supplying treating liquid from opposite first and second directions to opposite first and second surfaces. One of ordinary skill would readily understand that the system in Fig. 1 of the Eguchi et al. reference clearly does not supply treating liquid to opposite first and second surfaces of a filter medium within treatment vessel 8 from opposite first and second directions.

Applicant acknowledges the Examiner's statement that up-flow washing nozzles 234 in Fig. 2 of the present application inject treating liquid to a bottom of biological filter medium 221 in an upward direction to remove adhered dead bacteria from biological filter medium 221. This promotes decomposition of organic contaminants in the treating liquid by improving the ability of biological filter medium 221 to further biochemically degrade harmful substances from the treating liquid. However, the prior art as relied upon by the Examiner does not disclose or suggest supplying treating liquid from opposite first and second directions to opposite first and second surfaces of a biological filter medium as would be necessary to meet the features of claim 1. Although it may be well known to remove dead bacteria from a filter as stated by the Examiner, the relied upon prior art does not teach or suggest the idea of providing treating liquid to opposite first and second surfaces of a biological filter medium from opposite first and second directions to improve cleaning and efficiency. Accordingly, Applicant respectfully submits that this rejection of claims 15-22 is improper for at least these

reasons.

Conclusion

The Examiner is respectfully requested to reconsider and withdraw the corresponding rejections, and to pass the claims of the present application to issue, for at least the above reasons.

In the event that there are any outstanding matters remaining in the present application, please contact Andrew J. Telesz, Jr. (Reg. No. 33,581) at (571) 283-0720 in the Washington, D.C. area, to discuss these matters.

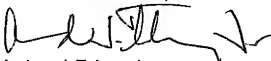
Pursuant to the provisions of 37 C.F.R. 1.17 and 1.136(a), the Applicant hereby petitions for an extension of one (1) month to October 12, 2008, for the period in which to file a response to the outstanding Office Action. The required fee of \$130.00 should be charged to Deposit Account No. 50-0238.

Request for Reconsideration dated October 14, 2008

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment for any additional fees that may be required, or credit any overpayment, to Deposit Account No. 50-0238.

Respectfully submitted,

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